IN THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently amended) A lithographic apparatus, comprising:

an illumination system configured to provide a beam of radiation;

a support configured to support a patterning device, the patterning device configured to impart the beam with a pattern in its cross-section;

a substrate table configured to hold a substrate;

a projection system configured to project the patterned beam onto a target portion of the substrate;

a measurement system configured to generate an information signal including information about ~~positions~~ a position of ~~at least one of~~ either the patterning device, or the substrate, or the projection system, ~~and components~~ or a component of the projection system, or any combination thereof; and

a control system configured to ~~control the positions and~~ transform the information signal into at least a native feedback signal representing an imaging characteristic of the lithographic apparatus, ~~including at least one of focus, magnification and distortion, wherein the control system is~~ said control system configured to generate a control signal on the basis of a native set-point signal and the native feedback signal, the control system controlling said position ~~and control the positions~~ on the basis of the control signal.

2. (Currently amended) A lithographic apparatus according to claim 1, wherein the control system comprises a native feedforward controller configured to generate a feedforward control signal on the basis of the native set-point signal ~~and to inject the feedforward signal in a control loop of the control system to control the positions~~ ,the control signal being determined by the feed forward control signal.

3. (Currently amended) A lithographic apparatus according to claim 1, ~~wherein the control system further comprises~~:

~~a transformation unit configured to transform the information signal into the native feedback signal and wherein the lithographic apparatus further comprises~~ further comprising:



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an actuator configured to exert control forces on at least one of the support, the substrate table, ~~and~~ the projection system, and/or a component of the projection system on the basis of the control signal.

4. (Original) A lithographic apparatus according to claim 1, wherein the projection system comprises a first lens element having a first position and a second lens element having a second position, the respective first and second positions each controlled by the control system.

5. (Currently amended) A lithographic apparatus according to claim 1, wherein the ~~control~~ control system comprises a native controller, said native controller comprising a ~~single-in-single-out~~ single-input-single-output controller.

6. (Currently amended) A lithographic apparatus according to claim 5, wherein the native controller comprises a second ~~single-in-single-out~~ single-input-single-output controller configured to ~~generates~~ generate a second control signal, wherein the ~~single-in-single-out controller corresponding to a selected native coordinate has the largest~~ bandwidth of the respective controllers is chosen according to the relative weight of the native coordinates.

7. (Currently amended) A lithographic apparatus according to claim 5, wherein the native controller comprises a ~~multiple-in-multiple-out~~ multiple-input-multiple-output controller configured to generate at least two control signals.

8. (Original) A lithographic apparatus according to claim 1, wherein the control system comprises a conventional controller configured to operate on conventional coordinates, and a native controller connected in cascade with the conventional controller.

9. (Currently amended) A control system for a lithographic apparatus including an illumination system configured to provide a beam of radiation; a support configured to support a patterning device, the patterning device configured to impart the beam with a pattern in its cross-section; a substrate table configured to hold a substrate; a projection system configured to project the patterned beam onto a target portion of the substrate; a measurement system configured to generate an information signal including information



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about ~~positions~~ a position of ~~at least one of~~ either the patterning device, or the substrate, or the projection system, or a component of the projection system, or any combination thereof, ~~and components therein, wherein the control system is configured to control the positions and transform the information signal into at least a native feedback signal representing an imaging characteristic including at least one of focus, magnification and distortion,~~ the control system comprising:

a controller configured to transform the information signal into at least a native feedback signal representing an imaging characteristic of the lithographic apparatus, said controller configured to generate a control signal on the basis of a native set-point signal and a native feedback signal, said controller controlling said position ~~and control the positions~~ on the basis of the control signal.

10. (Currently amended) A device manufacturing method for manufacturing a device with a lithographic apparatus, the method comprising:

projecting a patterned beam of radiation onto a target portion of a substrate;

generating an information signal including information about ~~positions~~ a position of ~~at least one of~~ either a patterning device used to pattern the beam of radiation, ~~the~~ or a substrate, or a projection system used to project the patterned beam, ~~and components~~ or a component of the projection system, or any combination thereof;

~~controlling the positions by:~~

transforming the information signal into at least a native feedback signal representing an imaging characteristic of the lithographic apparatus ~~including at least one of focus, magnification and distortion~~;

generating a control signal on the basis of a native set-point signal and the native feedback signal; and

controlling ~~the positions~~ said position on the basis of the control signal.

11. (Currently amended) A method according to claim 10, further comprising:

exerting control forces on at least one of a support for the patterning device, a substrate table for the substrate, [[and]] the projection system and/or a component of the projection system.



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12. (Original) A method according to claim 10, wherein the projection system includes a first lens element having a first position and a second lens element having a second position, the method further comprising:

controlling the first and second positions.

13. (New) A lithographic apparatus according to claim 1, wherein the imaging characteristic may include at least one of focus, magnification and/or distortion.

14. (New) A controls system according to claim 9, wherein the imaging characteristic may include at least one of focus, magnification and/or distortion.

15. (New) A method according to claim 10, wherein the imaging characteristic may include at least one of focus, magnification and/or distortion.



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